

Abstract

A method for encapsulating cisplatin and other positively-charged drugs into liposomes having a different lipid composition between their inner and outer membrane bilayers is disclosed. The liposomes are able to reach primary tumors and their metastases after intravenous injection to animals and humans. The encapsulated cisplatin has a high therapeutic efficacy in eradicating a variety of solid human tumors including but not limited to breast carcinoma and prostate carcinoma. Combination of the encapsulated cisplatin with encapsulated doxorubicin or with other antineoplastic drugs are claimed to be of therapeutic value. Also of therapeutic value in cancer eradication are claimed to be combinations of encapsulated cisplatin with a number of anticancer genes including but not limited to p53, IL-2, IL-12, angiostatin, and oncostatin encapsulated into liposomes as well as combinations of encapsulated cisplatin with HSV-tk plus encapsulated ganciclovir.